For assistance with 508 accessibility, please reach out to Anna Miller (email: miller.anna@epa.gov, phone: 312-886-7060)

PLUGGING AND ABANDONMENT
40 CFR 146.92

One Earth CCS

Facility Information

Facility name: One Earth Sequestration, LLC
OES #1

Facility contact: Mark Ditsworth, VP of Technology and Special Projects
One Earth Sequestration, LLC, 202 N Jordan Drive, Gibson City
(217) 784-5321 ext. 215
mditsworth@oneearthenergy.com

Well location: McLean County, IL
40.845427°N, -88.480010°W (NAD 1983)

One Earth Sequestration, LLC will conduct injection well plugging and abandonment according to the procedures below.

Planned Tests or Measures to Determine Bottom-Hole Reservoir Pressure

During plugging and abandonment, an initial bottom hole pressure measurement will be made using either existing gauges and hydrostatic pressure calculations or a wireline deployed pressure gauge.

Planned External Mechanical Integrity Test(s)

One Earth Sequestration, LLC will conduct at least one of the tests listed in Table 1 to verify external mechanical integrity prior to plugging the injection well as required by 40 CFR 146.92(a).

Table 1. *Proposed external mechanical integrity test prior to plugging OES #1.*

Test Description	Location
Temperature Log	Along wellbore using existing DTS or wireline well log TD to surface
Noise Log	TD to surface
Oxygen Activation Log	TD to surface
Pulsed Neutron Log Capture Cross Section	TD to surface casing

Information on Plugs

One Earth Sequestration, LLC will use the materials and methods noted in

Table ***2*** to plug the injection well. The volume and depth of the plug or plugs will depend on the final geology and downhole conditions of the well as assessed during construction. The cement(s) formulated for plugging will be compatible with the carbon dioxide stream. The cement formulation and required certification documents will be submitted to the agency with the well plugging plan. The owner or operator will report the wet density and will retain duplicate samples of the cement used for each plug.

Table 2*. Balanced plug details for plugging OES #1 well.*

	Plug #1	Plug #2	Plug #3	Plug #4	Plug #5	Plug #6	Plug #7	Plug #8	Plug #9	Plug #10
ID	Sensitive, Confidential, or Privileged Information									
Cement Used (Sacks)										
Slurry Yield (ft^3/sack)										
Slurry Volume (ft^3)										
Slurry weight (lb/gal)										
Planned Top (ft)										
Planned Bottom (ft)										
Cement Type										
Method										

Narrative Description of Plugging Procedure

Notifications, Permits, and Inspections

In compliance with 40 CFR 146.92(c), One Earth Sequestration, LLC. will notify the regulatory agency at least 60 days before plugging the well and provide updated Injection Well Plugging Plan, if applicable.

Plugging Procedures - Narrative

Upon completion of the project, or at the end of life of the OES #1 injection well, the well will be plugged and abandoned to meet the requirements of 40 CFR 146.92. The plugging procedure and materials will be designed to prevent any unwanted fluid movement, to resist the corrosive aspects of carbon dioxide/water mixtures, and to protect any USDWs. Any necessary revisions to the well plugging plan to address new information collected during logging and testing of the well will be made after construction, logging, and testing of the well have been completed. The final plugging plan will be submitted to the UIC Program Director.

During plugging and abandonment, an initial bottom hole pressure measurement will be made using either existing gauges and hydrostatic pressure calculations or a wireline deployed pressure gauge. Based on this pressure, the well will be flushed with a kill weight brine fluid with corrosion inhibitor. A minimum of two tubing volumes will be injected without exceeding fracture pressure. An external MIT conducted prior to plugging as outlined in Table 1. If a loss of mechanical integrity is discovered, the well will be repaired prior to proceeding with the plugging operations. Detailed plugging procedures are provided below. All casing in this well will be cemented to surface at the time of construction and will not be retrievable at abandonment. After injection is terminated permanently, the injection tubing and packer will be removed. After the tubing and packer are removed, a retainer squeeze followed by the balanced-plug placement method will be used to plug the well per the schedule outlined in **Error! Reference source not found.** and illustrated in Figure 1. The cement(s) formulated for plugging will be compatible with the carbon dioxide stream. The cement formulation and required certification documents will be submitted to the agency with the well plugging plan. The operator will report the wet density and will retain duplicate samples of the cement used for each plug. If, after flushing, the tubing and packer cannot be released, an electric line with tubing cutter will be used to cut off the tubing above the packer and the packer will be left in the well, and the cement retainer method will be used for plugging the injection formation below the abandoned packer. All the casing strings will be cut off at least 3 feet below the surface, below the plow line. A blanking plate with the required permit information will be welded to the top of the cutoff casing.

Plugging Procedures - Detailed

1. In compliance with 40 CFR 146.92(c), notify the regulatory agency at least 60 days before plugging the well and provide updated plugging plan, if applicable. Review historic MIT data and remedial work.

2. Move-in (MI) Rig onto OES #1 and rig up (RU). All CO_2 pipelines will be marked and noted with rig supervisor prior to MI.

3. Conduct and document a safety meeting.

4. Record bottom hole pressure from down hole gauge and calculate kill fluid density.

5. Open all valves on the vertical run of the tree and check pressures.

6. Test the pump and line to 2,500 psi (or another appropriate pressure). Fill tubing with kill weight brine (as determined by bottom hole pressure measurement). Bleeding off occasionally may be necessary to remove all air from the system. Test casing annulus to 1000 psi and monitor as in annual internal MIT. If there is pressure remaining on tubing rig to pump down tubing and inject two tubing volumes of kill weight brine. Monitor tubing and casing pressure for 1 hour. If both casing and tubing are dead, then nipple up blowout preventers (NU BOPs). Monitor casing and tubing pressures.

7. If the well is not dead or the pressure cannot be bled from the tubing, rig up (RU) slickline and set a plug in the lower profile nipple below packer. Circulate tubing and annulus with kill weight fluid until the well is dead. After the well is dead, nipple down the tree, nipple up blow-out preventers (BOPs), and perform a function test on the BOPs. BOPs should have appropriately sized single pipe rams on top and blind rams in the bottom ram for tubing. Test pipe rams and blind rams to 250 psi low, 3,000 psi high. Test annular preventer to 250 psi low and 3,000 psi high. Test all full open safety valves (TIWs), BOPs choke and kill lines, and choke manifold to 250 psi low and 3,000 psi high. NOTE: Make sure the casing valve is open during all BOP tests. After testing BOPs pick up tubing string and unlatch seal assembly from seal bore. Rig slick line and lubricator back to well and remove X- plug from well. Rig to pump via lubricator and circulate until well is dead.

8. Pull out of hole with tubing and control lines laying it down. NOTE: Ensure that the well is over-balanced so there is no backflow due to formation pressure and there are always at least 2 well control barriers in place.

9. Pull the seal assembly, pick up a tubing work string, and trip in hole (TIH) with the packer retrieving tools. Latch onto the packer and pull out of hole laying down same. Next, confirm the well's mechanical integrity by performing one of the permitted external mechanical integrity tests presented in Table 1. Contingency: If unable to pull seal assembly, RU electric line and make cut on tubing string just above packer. Note: Cut must be made above packer at least 5-10 ft MD. If unable to pull the packer, pull the work string out of hole and proceed to the next step. If problems are noted, update the cement remediation plan (if needed), and confer with agency prior to plugging operations.

10. TIH with work string to total depth (TD) with bit and scraper. Keep the hole full at all times. Circulate the well and prepare for cement plugging operations. TOH.

11. TIH with cement retainer for 9-5/8" casing. Set cement retainer at ~6,200'. Squeeze Plug #1 through cement retainer.

12. Sting out of cement retainer. Pull up and reverse circulate clean. Spot plug #2 using balance method.

13. Pull up and reverse circulate clean. Spot plug #3 using balance method. Pull up and reverse circulate clean. Pull out ~2,000' and shut down to let cement cure.

14. Reverse circulate hole bottoms up to verify no gas. TIH and tag/verify top of cement. Pull up and spot plug #4 using balance method.

15. Pull up and reverse circulate clean. Spot plug #5 using balance method. Pull up and reverse circulate clean. Pull out ~2,000' and shut down to let cement cure.

16. Reverse circulate hole bottoms up to verify no gas. TIH and tag/verify top of cement. Pull up and spot plug #6 using balance method.

17. Pull up and reverse circulate clean. Pull up and spot plug #7 using balance method. Pull out of hole and shut down to let cement cure.

18. Bleed well and verify no pressure. TIH and tag/verify top of cement. Pull up and spot plug #8 using balance method.

19. Pull up and reverse circulate clean. Pull up and spot plug #9 using balance method. Pull out of hole and shut down to let cement cure.

*Notes on steps 11-19

- Lay down work string as necessary while plugging out of hole.
- Cement volumes for each plug will be adjusted based on tag depth.
- Reverse circulating may be eliminated on some of the plug steps if plugging is well balanced.
- Overnight shutdown and plugs set per day will be adjusted based on operational timing.

21. Nipple down BOPs and cut all casing strings below plow line (min 3 feet below ground level or per local policies/standards and One Earth CCS requirements). Trip in well and set final cement plug #10. Lay down all work string, etc. Rig down all equipment and move out. Clean cellar to where a plate can be welded with well name onto lowest casing string at 3 feet, or as per permitting agency directive.

22. The procedures described above may be modified during execution as necessary to ensure a plugging operation that protects worker safety and is effective to protect USDWs. Any significant modifications due to unforeseen circumstances will be described in the Plugging report. Plugging report will be submitted within 60 days after plugging is completed and include:

- Pumping charts and all lab information.

- Plug emplacement type, depth range (top/bottom), cement type, grade, weight, and quantities used for each plug.
- Notes on plug tagging.
- Construction/plugging schematics with USDW depths.
- Certification of 10-year report retention.
- Certification as accurate by One Earth CCS and plugging contractor.
- Well flushing and kill fluids description along with fluids and volumes.
- Notes on debris or tight restrictions.
- Documentation of removed completion equipment (tubing, control lines, packers, gauges).
- Squeeze cementing descriptions (if applicable).

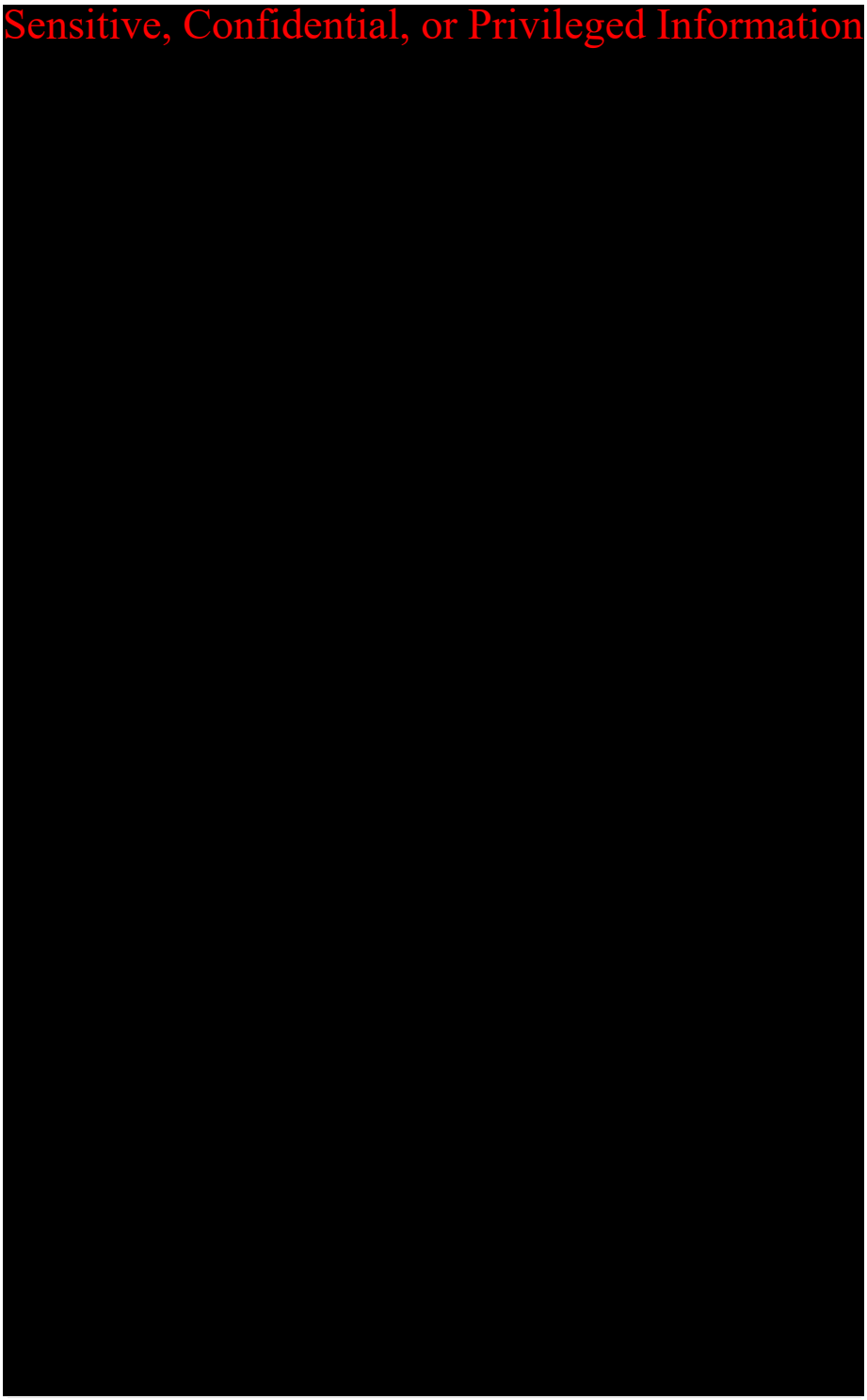

Figure 1. *OES #1 well plugging plan.*

PLUGGING AND ABANDONMENT
40 CFR 146.92

One Earth CCS

Facility Information

Facility name: One Earth Sequestration, LLC
OES #2

Facility contact: Mark Ditsworth, VP of Technology and Special Projects
One Earth Sequestration, LLC, 202 N Jordan Drive, Gibson City
(217) 784-5321 ext. 215
mditsworth@oneearthenergy.com

Well location: McLean County, IL
40.500096°N, -88.474625°W (NAD 1983)

One Earth Sequestration, LLC will conduct injection well plugging and abandonment according to the procedures below.

Planned Tests or Measures to Determine Bottom-Hole Reservoir Pressure

During plugging and abandonment, an initial bottom hole pressure measurement will be made using either existing gauges and hydrostatic pressure calculations or a wireline deployed pressure gauge.

Planned External Mechanical Integrity Test(s)

One Earth Sequestration, LLC will conduct at least one of the tests listed in Table 1 to verify external mechanical integrity prior to plugging the injection well as required by 40 CFR 146.92(a).

Table 1. *Proposed external mechanical integrity test prior to plugging OES #2.*

Test Description	Location
Temperature Log	Along wellbore using existing DTS or wireline well log TD to surface
Noise Log	TD to surface
Oxygen Activation Log	TD to surface
Pulsed Neutron Log Capture Cross Section	TD to surface casing

Information on Plugs

One Earth Sequestration, LLC will use the materials and methods noted in

Table ***2*** to plug the injection well. The volume and depth of the plug or plugs will depend on the final geology and downhole conditions of the well as assessed during construction. The cement(s) formulated for plugging will be compatible with the carbon dioxide stream. The cement formulation and required certification documents will be submitted to the agency with the well plugging plan. The owner or operator will report the wet density and will retain duplicate samples of the cement used for each plug.

Table 2. *Balanced plug details for plugging OES #2 well.*

	Plug #1	Plug #2	Plug #3	Plug #4	Plug #5	Plug #6	Plug #7	Plug #8	Plug #9	Plug #10
ID	Sensitive, Confidential, or Privileged Information									
Cement Used (Sacks)										
Slurry Yield (ft^3/sack)										
Slurry Volume (ft^3)										
Slurry weight (lb/gal)										
Planned Top (ft)										
Planned Bottom (ft)										
Cement Type										
Method										

Narrative Description of Plugging Procedure

Notifications, Permits, and Inspections

In compliance with 40 CFR 146.92(c), One Earth Sequestration, LLC will notify the regulatory agency at least 60 days before plugging the well and provide updated Injection Well Plugging Plan, if applicable.

Plugging Procedures - Narrative

Upon completion of the project, or at the end of life of the OES #2 injection well, the well will be plugged and abandoned to meet the requirements of 40 CFR 146.92. The plugging procedure and materials will be designed to prevent any unwanted fluid movement, to resist the corrosive aspects of carbon dioxide/water mixtures, and to protect any USDWs. Any necessary revisions to the well plugging plan to address new information collected during logging and testing of the well will be made after construction, logging, and testing of the well have been completed. The final plugging plan will be submitted to the UIC Program Director.

During plugging and abandonment, an initial bottom hole pressure measurement will be made using either existing gauges and hydrostatic pressure calculations or a wireline deployed pressure gauge. Based on this pressure, the well will be flushed with a kill weight brine fluid with corrosion inhibitor. A minimum of two tubing volumes will be injected without exceeding fracture pressure. An external MIT conducted prior to plugging as outlined in Table 1. If a loss of mechanical integrity is discovered, the well will be repaired prior to proceeding with the plugging operations. Detailed plugging procedure are provided below. All casing in this well will be cemented to surface at the time of construction and will not be retrievable at abandonment. After injection is terminated permanently, the injection tubing and packer will be removed. After the tubing and packer are removed, a retainer squeeze followed by the balanced-plug placement method will be used to plug the well per the schedule outlined in **Error! Reference source not found.** and illustrated in Figure 1. The cement(s) formulated for plugging will be compatible with the carbon dioxide stream. The cement formulation and required certification documents will be submitted to the agency with the well plugging plan. The operator will report the wet density and will retain duplicate samples of the cement used for each plug. If, after flushing, the tubing and packer cannot be released, an electric line with tubing cutter will be used to cut off the tubing above the packer and the packer will be left in the well, and the cement retainer method will be used for plugging the injection formation below the abandoned packer. All the casing strings will be cut off at least 3 feet below the surface, below the plow line. A blanking plate with the required permit information will be welded to the top of the cutoff casing.

Plugging Procedures - Detailed

1. In compliance with 40 CFR 146.92(c), notify the regulatory agency at least 60 days before plugging the well and provide updated plugging plan, if applicable. Review historic MIT data and remedial work.

2. Move-in (MI) Rig onto OES #2 and rig up (RU). All CO_2 pipelines will be marked and noted with rig supervisor prior to MI.

3. Conduct and document a safety meeting.

4. Record bottom hole pressure from down hole gauge and calculate kill fluid density.

5. Open all valves on the vertical run of the tree and check pressures.

6. Test the pump and line to 2,500 psi (or another appropriate pressure). Fill tubing with kill weight brine (as determined by bottom hole pressure measurement). Bleeding off occasionally may be necessary to remove all air from the system. Test casing annulus to 1000 psi and monitor as in annual internal MIT. If there is pressure remaining on tubing rig to pump down tubing and inject two tubing volumes of kill weight brine. Monitor tubing and casing pressure for 1 hour. If both casing and tubing are dead, then nipple up blowout preventers (NU BOPs). Monitor casing and tubing pressures.

7. If the well is not dead or the pressure cannot be bled from the tubing, rig up (RU) slickline and set a plug in the lower profile nipple below packer. Circulate tubing and annulus with kill weight fluid until the well is dead. After the well is dead, nipple down the tree, nipple up blow-out preventers (BOPs), and perform a function test on the BOPs. BOPs should have appropriately sized single pipe rams on top and blind rams in the bottom ram for tubing. Test pipe rams and blind rams to 250 psi low, 3,000 psi high. Test annular preventer to 250 psi low and 3,000 psi high. Test all full open safety valves (TIWs), BOPs choke and kill lines, and choke manifold to 250 psi low and 3,000 psi high. NOTE: Make sure the casing valve is open during all BOP tests. After testing BOPs pick up tubing string and unlatch seal assembly from seal bore. Rig slick line and lubricator back to well and remove X- plug from well. Rig to pump via lubricator and circulate until well is dead.

8. Pull out of hole with tubing and control lines laying it down. NOTE: Ensure that the well is over-balanced so there is no backflow due to formation pressure and there are always at least 2 well control barriers in place.

9. Pull the seal assembly, pick up a tubing work string, and trip in hole (TIH) with the packer retrieving tools. Latch onto the packer and pull out of hole laying down same. Next, confirm the well's mechanical integrity by performing one of the permitted external mechanical integrity tests presented in Table 1. Contingency: If unable to pull seal assembly, RU electric line and make cut on tubing string just above packer. Note: Cut must be made above packer at least 5-10 ft MD. If unable to pull the packer, pull the work string out of hole and proceed to the next step. If problems are noted, update the cement remediation plan (if needed), and confer with agency prior to plugging operations.

10. TIH with work string to total depth (TD) with bit and scraper. Keep the hole full at all times. Circulate the well and prepare for cement plugging operations. TOH.

11. TIH with cement retainer for 9-5/8" casing. Set cement retainer at ~6,200'. Squeeze Plug #1 through cement retainer.

12. Sting out of cement retainer. Pull up and reverse circulate clean. Spot plug #2 using balance method.

13. Pull up and reverse circulate clean. Spot plug #3 using balance method. Pull up and reverse circulate clean. Pull out ~2,000' and shut down to let cement cure.

14. Reverse circulate hole bottoms up to verify no gas. TIH and tag/verify top of cement. Pull up and spot plug #4 using balance method.

15. Pull up and reverse circulate clean. Spot plug #5 using balance method. Pull up and reverse circulate clean. Pull out ~2,000' and shut down to let cement cure.

16. Reverse circulate hole bottoms up to verify no gas. TIH and tag/verify top of cement. Pull up and spot plug #6 using balance method.

17. Pull up and reverse circulate clean. Pull up and spot plug #7 using balance method. Pull out of hole and shut down to let cement cure.

18. Bleed well and verify no pressure. TIH and tag/verify top of cement. Pull up and spot plug #8 using balance method.

19. Pull up and reverse circulate clean. Pull up and spot plug #9 using balance method. Pull out of hole and shut down to let cement cure.

*Notes on steps 11-19

- Lay down work string as necessary while plugging out of hole.
- Cement volumes for each plug will be adjusted based on tag depth.
- Reverse circulating may be eliminated on some of the plug steps if plugging is well balanced.
- Overnight shutdown and plugs set per day will be adjusted based on operational timing.

21. Nipple down BOPs and cut all casing strings below plow line (min 3 feet below ground level or per local policies/standards and One Earth CCS requirements). Trip in well and set final cement plug #10. Lay down all work string, etc. Rig down all equipment and move out. Clean cellar to where a plate can be welded with well name onto lowest casing string at 3 feet, or as per permitting agency directive.

22. The procedures described above may be modified during execution as necessary to ensure a plugging operation that protects worker safety and is effective to protect USDWs. Any significant modifications due to unforeseen circumstances will be described in the Plugging report. Plugging report will be submitted within 60 days after plugging is completed and include:

- Pumping charts and all lab information.

- Plug emplacement type, depth range (top/bottom), cement type, grade, weight, and quantities used for each plug.
- Notes on plug tagging.
- Construction/plugging schematics with USDW depths.
- Certification of 10-year report retention.
- Certification as accurate by One Earth CCS and plugging contractor.
- Well flushing and kill fluids description along with fluids and volumes.
- Notes on debris or tight restrictions.
- Documentation of removed completion equipment (tubing, control lines, packers, gauges).
- Squeeze cementing descriptions (if applicable).

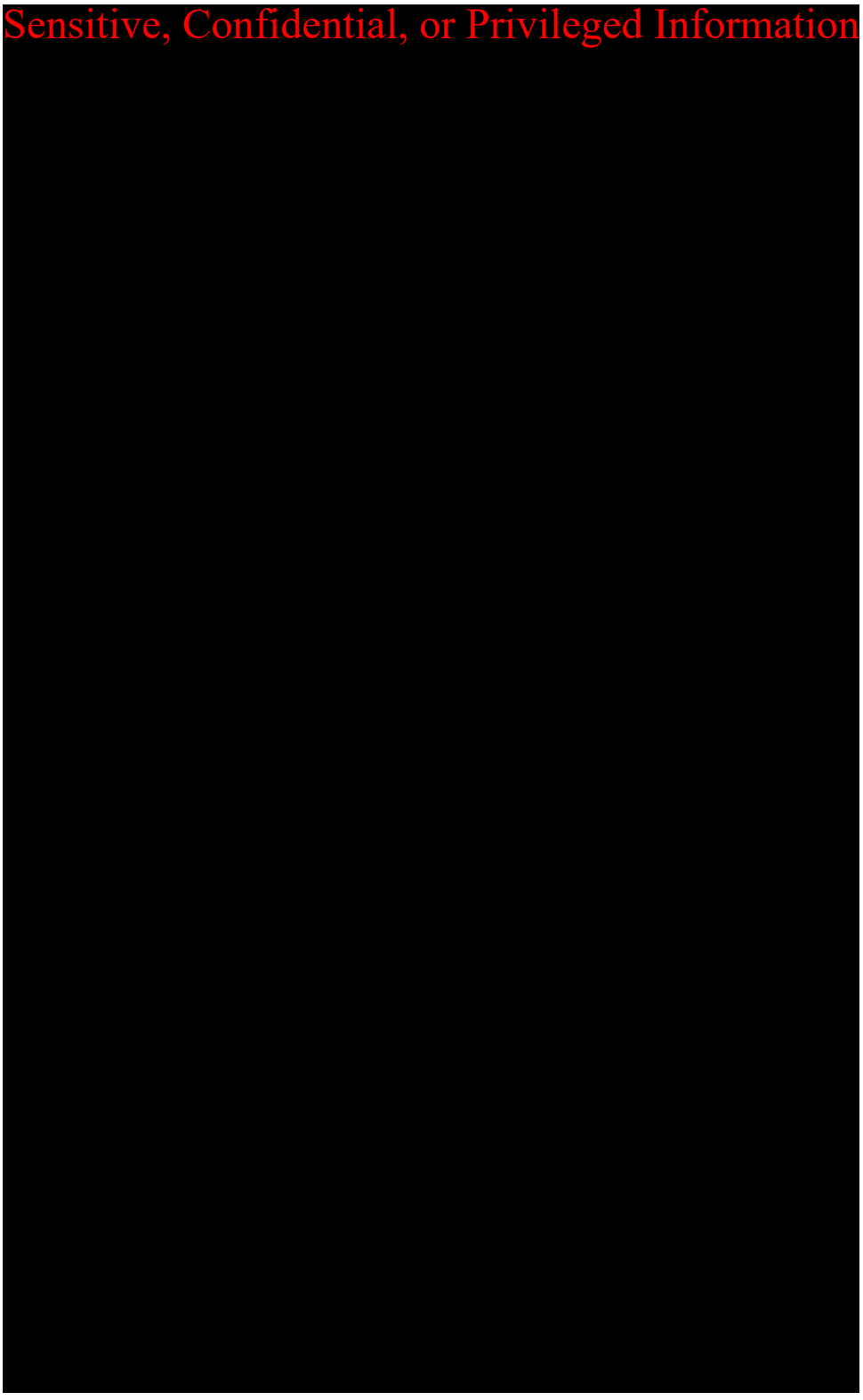

Figure 1. *OES #2 well plugging plan.*

PLUGGING AND ABANDONMENT
40 CFR 146.92

One Earth CCS

Facility Information

Facility name: One Earth Sequestraion, LLC
OES #3

Facility contact: Mark Ditsworth, VP of Technology and Special Projects
One Earth Sequestraion, LLC, 202 N Jordan Drive, Gibson City
(217) 784-5321 ext. 215
mditsworth@oneearthenergy.com

Well location: McLean County, IL
40.515826°N, -88.479947°W (NAD83)

One Earth Sequestration, LLC will conduct injection well plugging and abandonment according to the procedures below.

Planned Tests or Measures to Determine Bottom-Hole Reservoir Pressure

During plugging and abandonment, an initial bottom hole pressure measurement will be made using either existing gauges and hydrostatic pressure calculations or a wireline deployed pressure gauge.

Planned External Mechanical Integrity Test(s)

One Earth Sequestration, LLC will conduct at least one of the tests listed in Table 1 to verify external mechanical integrity prior to plugging the injection well as required by 40 CFR 146.92(a).

Table 1. *Proposed external mechanical integrity test prior to plugging OES #3.*

Test Description	Location
Temperature Log	Along wellbore using existing DTS or wireline well log TD to surface
Noise Log	TD to surface
Oxygen Activation Log	TD to surface
Pulsed Neutron Log Capture Cross Section	TD to surface casing

Information on Plugs

One Earth Sequestration, LLC will use the materials and methods noted in Table 2 to plug the injection well. The volume and depth of the plug or plugs will depend on the final geology and downhole conditions of the well as assessed during construction. The cement(s) formulated for plugging will be compatible with the carbon dioxide stream. The cement formulation and required certification documents will be submitted to the agency with the well plugging plan. The owner or operator will report the wet density and will retain duplicate samples of the cement used for each plug.

Table 2. *Balanced plug details for plugging OES #3 well.*

	Plug #1	Plug #2	Plug #3	Plug #4	Plug #5	Plug #6	Plug #7	Plug #8	Plug #9	Plug #10
ID	Sensitive, Confidential, or Privileged Information									
Cement Used (Sacks)										
Slurry Yield (ft^3/sack)										
Slurry Volume (ft^3)										
Slurry weight (lb/gal)										
Planned Top (ft)										
Planned Bottom (ft)										
Cement Type										
Method										

Narrative Description of Plugging Procedure

Notifications, Permits, and Inspections

In compliance with 40 CFR 146.92(c), One Earth Sequestration, LLC will notify the regulatory agency at least 60 days before plugging the well and provide updated Injection Well Plugging Plan, if applicable.

Plugging Procedures - Narrative

Upon completion of the project, or at the end of life of the OES #3 injection well, the well will be plugged and abandoned to meet the requirements of 40 CFR 146.92. The plugging procedure and materials will be designed to prevent any unwanted fluid movement, to resist the corrosive aspects of carbon dioxide/water mixtures, and to protect any USDWs. Any necessary revisions to the well plugging plan to address new information collected during logging and testing of the well will be made after construction, logging, and testing of the well have been completed. The final plugging plan will be submitted to the UIC Program Director.

During plugging and abandonment, an initial bottom hole pressure measurement will be made using either existing gauges and hydrostatic pressure calculations or a wireline deployed pressure gauge. Based on this pressure, the well will be flushed with a kill weight brine fluid with corrosion inhibitor. A minimum of two tubing volumes will be injected without exceeding fracture pressure. An external MIT conducted prior to plugging as outlined in Table 1. If a loss of mechanical integrity is discovered, the well will be repaired prior to proceeding with the plugging operations. Detailed plugging procedure are provided below. All casing in this well will be cemented to surface at the time of construction and will not be retrievable at abandonment. After injection is terminated permanently, the injection tubing and packer will be removed. After the tubing and packer are removed, a retainer squeeze followed by the balanced-plug placement method will be used to plug the well per the schedule outlined in **Error! Reference source not found.** and illustrated in Figure 1. The cement(s) formulated for plugging will be compatible with the carbon dioxide stream. The cement formulation and required certification documents will be submitted to the agency with the well plugging plan. The operator will report the wet density and will retain duplicate samples of the cement used for each plug. If, after flushing, the tubing and packer cannot be released, an electric line with tubing cutter will be used to cut off the tubing above the packer and the packer will be left in the well, and the cement retainer method will be used for plugging the injection formation below the abandoned packer. All the casing strings will be cut off at least 3 feet below the surface, below the plow line. A blanking plate with the required permit information will be welded to the top of the cutoff casing.

Plugging Procedures - Detailed

1. In compliance with 40 CFR 146.92(c), notify the regulatory agency at least 60 days before plugging the well and provide updated plugging plan, if applicable. Review historic MIT data and remedial work.

2. Move-in (MI) Rig onto OES #3 and rig up (RU). All CO_2 pipelines will be marked and noted with rig supervisor prior to MI.

3. Conduct and document a safety meeting.

4. Record bottom hole pressure from down hole gauge and calculate kill fluid density.

5. Open all valves on the vertical run of the tree and check pressures.

6. Test the pump and line to 2,500 psi (or another appropriate pressure). Fill tubing with kill weight brine (as determined by bottom hole pressure measurement). Bleeding off occasionally may be necessary to remove all air from the system. Test casing annulus to 1000 psi and monitor as in annual internal MIT. If there is pressure remaining on tubing rig to pump down tubing and inject two tubing volumes of kill weight brine. Monitor tubing and casing pressure for 1 hour. If both casing and tubing are dead, then nipple up blowout preventers (NU BOP's). Monitor casing and tubing pressures.

7. If the well is not dead or the pressure cannot be bled from the tubing, rig up (RU) slickline and set a plug in the lower profile nipple below packer. Circulate tubing and annulus with kill weight fluid until the well is dead. After the well is dead, nipple down the tree, nipple up blow-out preventers (BOPs), and perform a function test on the BOPs. BOPs should have appropriately sized single pipe rams on top and blind rams in the bottom ram for tubing. Test pipe rams and blind rams to 250 psi low, 3,000 psi high. Test annular preventer to 250 psi low and 3,000 psi high. Test all full open safety valves (TIW's), BOPs choke and kill lines, and choke manifold to 250 psi low and 3,000 psi high. NOTE: Make sure the casing valve is open during all BOP tests. After testing BOPs pick up tubing string and unlatch seal assembly from seal bore. Rig slick line and lubricator back to well and remove X- plug from well. Rig to pump via lubricator and circulate until well is dead.

8. Pull out of hole with tubing and control lines laying it down. NOTE: Ensure that the well is over-balanced so there is no backflow due to formation pressure and there are always at least 2 well control barriers in place.

9. Pull the seal assembly, pick up a tubing work string, and trip in hole (TIH) with the packer retrieving tools. Latch onto the packer and pull out of hole laying down same. Next, confirm the well's mechanical integrity by performing one of the permitted external mechanical integrity tests presented in Table 1. Contingency: If unable to pull seal assembly, RU electric line and make cut on tubing string just above packer. Note: Cut must be made above packer at least 5-10 ft MD. If unable to pull the packer, pull the work string out of hole and proceed to the next step. If problems are noted, update the cement remediation plan (if needed), and confer with agency prior to plugging operations.

10. TIH with work string to total depth (TD) with bit and scraper. Keep the hole full at all times. Circulate the well and prepare for cement plugging operations. TOH.

11. TIH with cement retainer for 9-5/8" casing. Set cement retainer at ~6,200'. Squeeze Plug #1 through cement retainer.

12. Sting out of cement retainer. Pull up and reverse circulate clean. Spot plug #2 using balance method.

13. Pull up and reverse circulate clean. Spot plug #3 using balance method. Pull up and reverse circulate clean. Pull out ~2,000' and shut down to let cement cure.

14. Reverse circulate hole bottoms up to verify no gas. TIH and tag/verify top of cement. Pull up and spot plug #4 using balance method.

15. Pull up and reverse circulate clean. Spot plug #5 using balance method. Pull up and reverse circulate clean. Pull out ~2,000' and shut down to let cement cure.

16. Reverse circulate hole bottoms up to verify no gas. TIH and tag/verify top of cement. Pull up and spot plug #6 using balance method.

17. Pull up and reverse circulate clean. Pull up and spot plug #7 using balance method. Pull out of hole and shut down to let cement cure.

18. Bleed well and verify no pressure. TIH and tag/verify top of cement. Pull up and spot plug #8 using balance method.

19. Pull up and reverse circulate clean. Pull up and spot plug #9 using balance method. Pull out of hole and shut down to let cement cure.

*Notes on steps 11-19

- Lay down work string as necessary while plugging out of hole.
- Cement volumes for each plug will be adjusted based on tag depth.
- Reverse circulating may be eliminated on some of the plug steps if plugging is well balanced.
- Overnight shutdown and plugs set per day will be adjusted based on operational timing.

21. Nipple down BOPs and cut all casing strings below plow line (min 3 feet below ground level or per local policies/standards and One Earth CCS requirements). Trip in well and set final cement plug #10. Lay down all work string, etc. Rig down all equipment and move out. Clean cellar to where a plate can be welded with well name onto lowest casing string at 3 feet, or as per permitting agency directive.

22. The procedures described above may be modified during execution as necessary to ensure a plugging operation that protects worker safety and is effective to protect USDW's. Any significant modifications due to unforeseen circumstances will be described in the Plugging report. Plugging report will be submitted within 60 days after plugging is completed and include:

- Pumping charts and all lab information.

- Plug emplacement type, depth range (top/bottom), cement type, grade, weight, and quantities used for each plug.
- Notes on plug tagging.
- Construction/plugging schematics with USDW depths.
- Certification of 10-year report retention.
- Certification as accurate by One Earth CCS and plugging contractor.
- Well flushing and kill fluids description along with fluids and volumes.
- Notes on debris or tight restrictions.
- Documentation of removed completion equipment (tubing, control lines, packers, gauges).
- Squeeze cementing descriptions (if applicable).

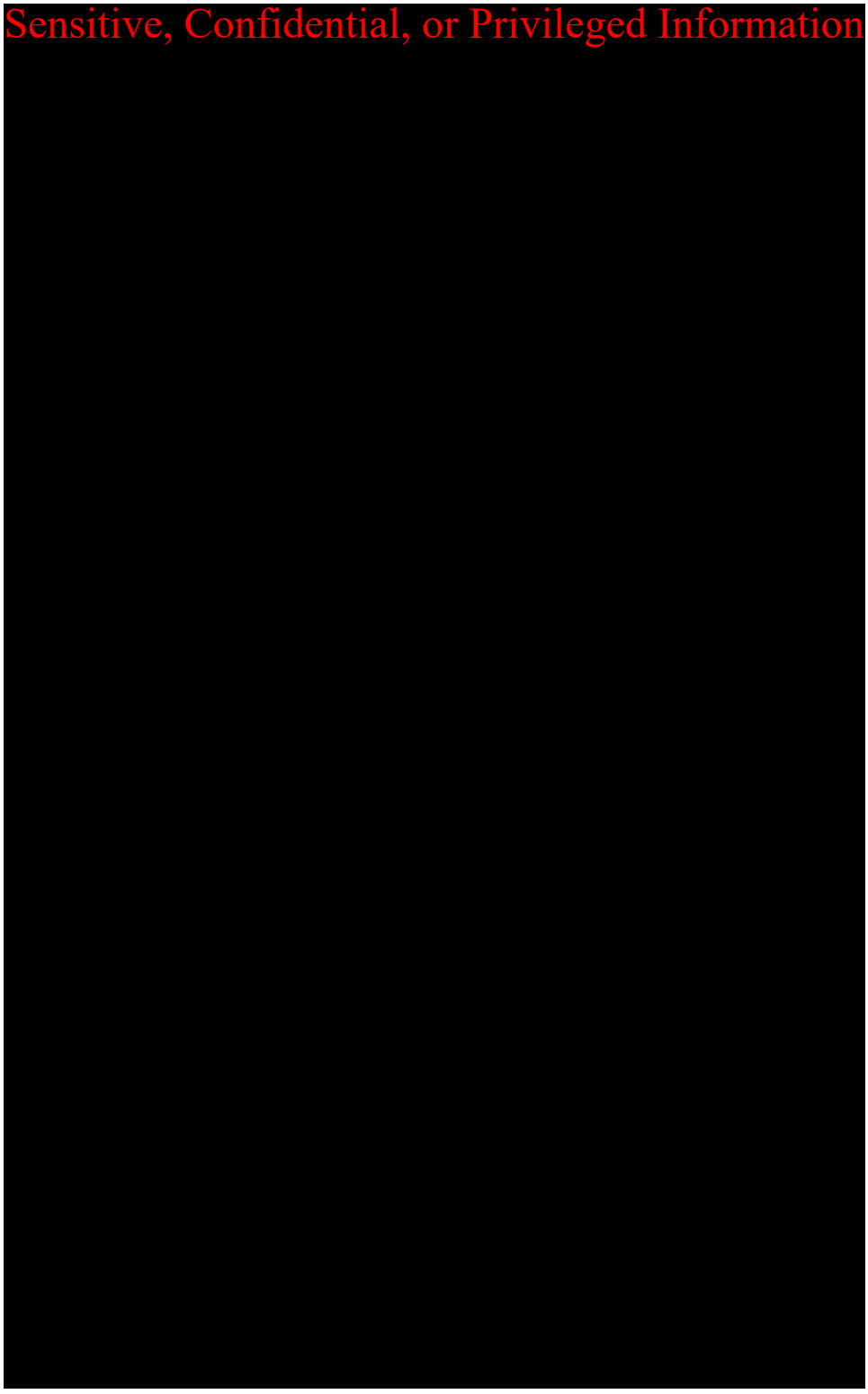

Figure 1. *OES #3 well plugging plan.*